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Emerging Padding and Related Pipeline-Construction Practices
Agreement DTRS56-03-T-0005
3rd Quarterly Status Report
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Contractor: Battelle

This planned two-year project seeks to quantify the merits of recent advances in practices related to pipeline bedding and padding. The results of this project will help the Office of Pipeline Safety determine the value of such practices when offered in the context of performance-based integrity management plans. The project involves field evaluation of emerging approaches for bedding and padding pipelines in areas where native soils contain rock and other debris that could damage the pipeline or degrade its integrity over time. Benchmarks for comparison will cover a variety of soil types, and existing as well as emerging practices, to provide a basis to assess improvements in contrast to current practices.

The renewal of construction activity during the spring offered the possibility of additional field studies. However, contact with selected contractors and those with special interest in this work indicated competitive bedding and padding equipment and practices would not be found on the same or even adjacent spreads. As comparisons are complicated by differences in the native material being ditched, and because the contractually required number of spreads had been visited, the effort remained centered on evaluation of the data in hand. Trends developing en route to the final report continue to indicate modern coatings are not particularly selective to the type of machine used if the material is supplied to specification, pointing to the possible use of a performance-based specification. Satisfying all stakeholders this is viable requires quantitative laboratory work beyond the present field-based study.

As viewed by some in this industry, advanced bedding and padding comprises a “three-part system” – a machine, foam benches, and geotextile fabric. Machines and foam benches have been used since the 80s, but use of geotextile fabric to provide “backfill stability” appears to be a recent suggestion. Some consider it essential, while others consider it a gimmick. Geofabric marked with a warning is a variation on buried warning tapes suggested to limit third-party damage. However, at present there is no simple way to quantify its practical utility as a ditch stabilizer, as this requires a focused long-term evaluation beyond the present work scope.

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